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मानक

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IS 3108 (1991): Forestry Tools - Pruning Saw [FAD 21: Farm Implements and Machinery]



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“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

वानिकी औजार — छटाई आरी — विशिष्ट

(दूसरा पुनरीक्षण)

Indian Standard

FORESTRY TOOLS — PRUNING SAW —
SPECIFICATION

(*Second Revision*)

UDC 631.342 : 621.932.4

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Price Group 2

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards after the draft finalized by the Forestry and Plantation Crops Machinery Sectional Committee had been approved by the Food and Agriculture Division Council.

The pruning saw is one of the essential hand tools, extensively used in tea, coffee and rubber plantation for trimming those twigs and branches which are inconvenient to cut with shears, secateurs or pruning knives. It is also used in orchards and sometimes in vegetable gardens.

This standard covering the requirements of pruning saw was published in 1965 and it was revised in 1982 to include certain essential dimensions. This standard is being revised again to incorporate the requirements of pruning saw used for pruning of branches of a tree.

In the formulation of this standard assistance has been derived from Forest Operation Division, Forest Research Institute, Dehradun.

The figures given in this standard are meant only for illustrations and should not be considered as suggestive of any standard design.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, or analysis shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding of numerical values (revised)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

FORESTRY TOOLS — PRUNING SAW — SPECIFICATION

(Second Revision)

1 SCOPE

This standard specifies material dimensions and other requirements for pruning saw.

2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard:

<i>IS No.</i>	<i>Title</i>
1586 : 1968	Method for rockwell hardness test for metallic materials (Scales A-B-C-D-E-F-G-H-K) (<i>second revision</i>)
2507 : 1975	Cold rolled steel strips for spring (<i>first revision</i>)
7201 : (Part 1) 1987	Methods of sampling of agricultural machinery and tractors : Part 1 Hand tools and hand operated/animal drawn equipment (<i>first revision</i>)

3 TERMINOLOGY

3.1 For the purpose of this standard, the nomenclature as given in Fig. 1 along with the following definitions shall apply.

3.1.1 Curved Edge — A saw blade, on which the toothed edge is concave.

3.1.2 Straight Edge — A saw blade, on which the toothed edge is straight.

3.1.3 Skew Back — A saw blade, on which the edge opposite to the toothed edge is concave.

3.1.4 Flat Ground — A saw blade, which is ground so as to be of the same thickness across the entire width, from the toothed edge to the back edge.

4 TYPES

4.1 For the purpose of this standard, the pruning saw shall be of the following types:

a) Light Duty

1) Straight-edge (*see* Fig. 1A)

2) Curved-edge (*see* Fig. 1B); and

b) Heavy Duty (*see* Fig. 2).

5 MATERIAL

5.1 Blade

The saw blade and tang shall be manufactured from steel conforming to Grade Designation 80 C6 of IS 2507 : 1975. Chemical composition of this steel shall be as under:

Carbon	0.75 to 0.90 percent
Silicon	0.35 percent, <i>Max</i>
Manganese	0.65 to 0.90 percent
Sulphur & Phosphorous	0.05 percent, <i>Max</i>

5.2 Handle

For pruning saws light duty it shall be of wood and for pruning saws heavy duty it shall be of galvanized iron pipe with aluminium extension pipe.

6 HARDNESS

6.1 The blade shall be heat-treated to give a hardness within the range of 45 and 48 HRC (*see* IS 1586 : 1968). The hardness shall be measured as near to the sawing edge as possible.

7 DIMENSIONS

7.1 Size of the blade (*see* A in Fig. 1A and Fig. 1B) shall be 300, 350, 400 or 450 mm. The tolerance on the size shall be ± 5 mm.

7.2 The width of the blade (*see* B in Fig. 1A and Fig. 1B) shall either be 42 ± 2 or 45 ± 2 mm.

7.3 The minimum thickness of the blade (*see* T in Fig. 1) shall be 1.6 mm. The tolerance of the thickness shall be ± 0.1 mm.

7.4 The pitch of the teeth (*see* C in Fig. 1A and Fig. 1B) shall be between 4 to 5 mm.

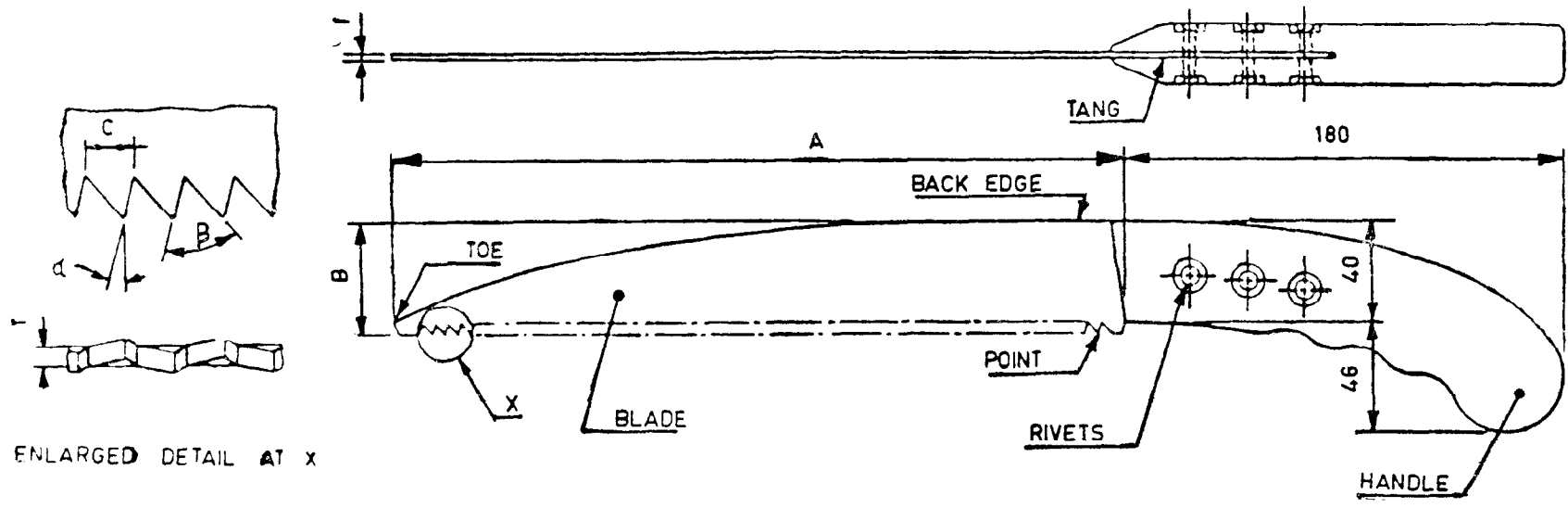
7.5 The rake angle (*see* X in Fig. 1A) for straight edge type and curved-edge type saw shall be 57° and 65° respectively. The tolerance shall be $\pm 3^\circ$.

7.6 Other dimensions as shown in Fig. 1 and Fig. 2 are for guidance only.

8 OTHER REQUIREMENTS

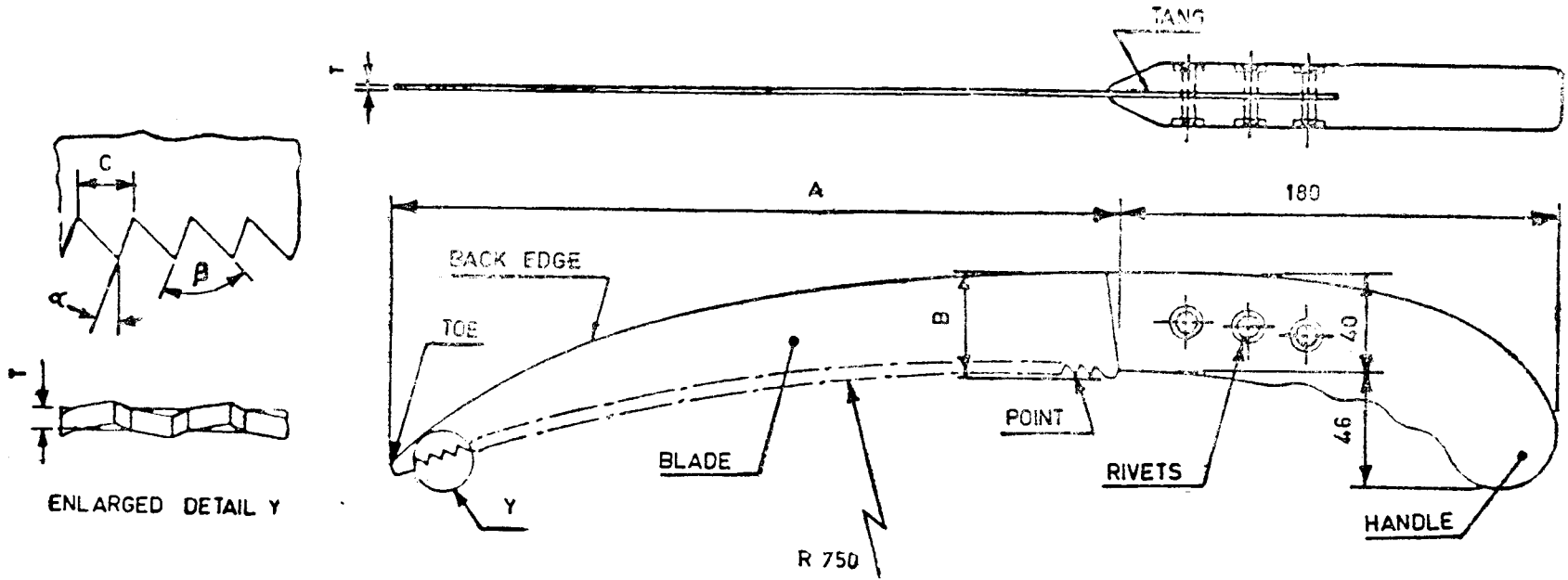
8.1 The saw shall be stamped and annealed before cutting the teeth.

8.2 The teeth shall be alternatively set on either side of the blade.



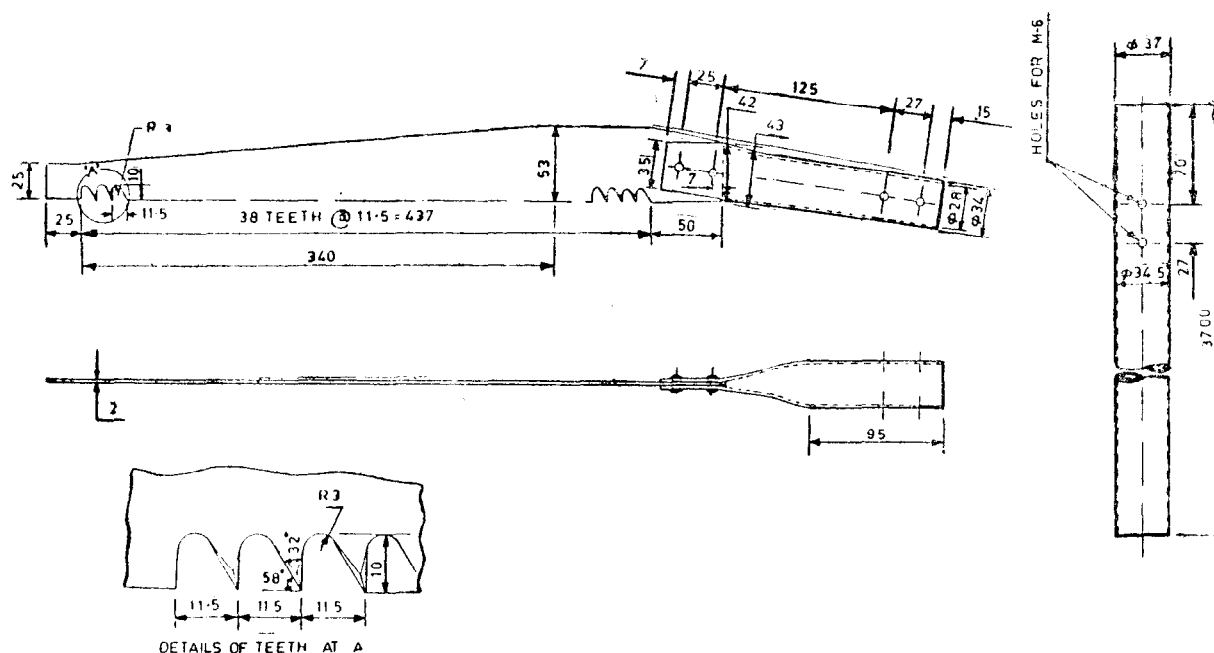
All dimensions in millimetres.

FIG. 1A PRUNING SAW (LIGHT DUTY) STRAIGHT-EDGE TYPE



All dimensions in millimetres.

FIG. 1B PRUNING SAW (LIGHT DUTY) CURVED-EDGE TYPE



All dimensions in millimetres.

FIG. 2 PRUNING SAW, HEAVY DUTY

8.3 The handle shall be centrally slit. The width of slot shall not be greater than necessary to receive the blade tang.

8.4 The handle shall be attached with a tang with the help of 3 rivets of diameter 3 to 6 mm.

8.5 A blade cover made of rexin, canvass or plastics shall be provided.

9 TESTS

9.1 Cutting Test

The cutting edge of the pruning shall be tested by sawing 600 branches of 25 mm or near about diameter green wood in case of light duty and 50 mm diameter in case of heavy duty suitably shaped and of the type similar to mango (*Mangifera Indica*). Not less than six such pieces shall be sawed and at the end of the test the teeth shall not show any sign of damage.

9.2 Bend Test

The entire length of the blade shall be made to lie on the periphery of a 150 mm radius segment and kept for one minute. The blade shall not show any sign of damage during test or take any permanent set when released.

10 WORKMANSHIP AND FINISH

10.1 The blade shall be ground flat.

10.2 The tooth edge shall be flat.

10.3 The rivetting of the handle with the tank shall be satisfactory.

10.4 The components shall be free from cracks, pits splits and other visual defects.

10.5 The handle shall be finished smooth and in flush with the tang. It shall be suitably gripped tight to prevent slippage in operation.

10.6 The blade shall be smeared all over with a mineral jelly or with any other rust preventive paint. The handle may be varnished.

11 MARKING AND PACKING

11.1 Marking

The saw shall be marked clearly with the following information on its blade:

- Manufacturer's name or recognized trade-mark, if any;
- Batch or code number;
- Type; and
- Size.

11.1.1 Standard Marking

The present saw may also be marked with the Standard Mark.

11.2 Packing

The saw shall be packed for safe handling in transit and storage as agreed to between the purchaser and the vendor.

12 SAMPLING FOR LOT ACCEPTANCE

Unless otherwise agreed to between the purchaser and the the supplier the sampling criteria for conformity of pruning saw shall be done in accordance with 3 of IS 7201 (Part 1) : 1987.

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

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